

Patent Abstracts of Japan

PUBLICATION NUMBER : 2000315653
 PUBLICATION DATE : 14-11-00

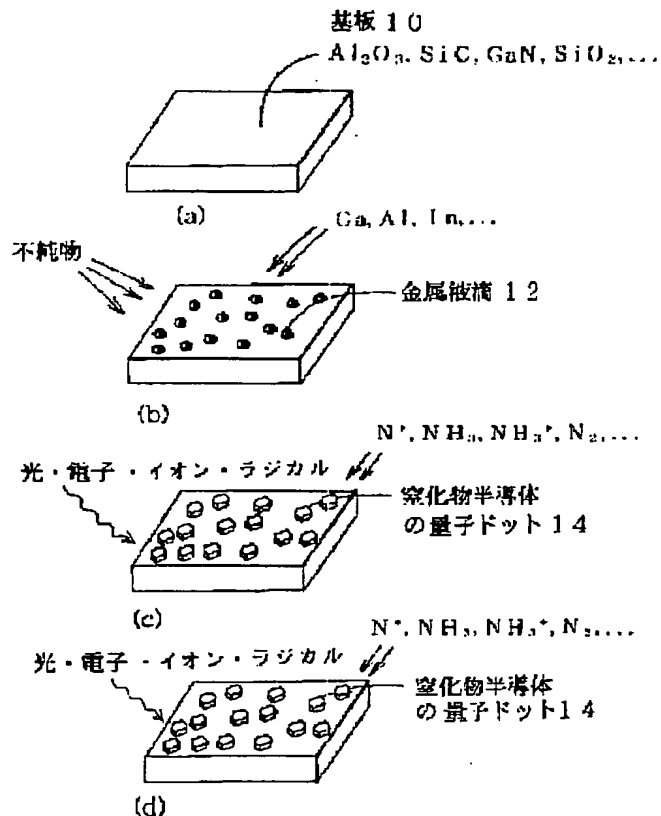
APPLICATION DATE : 30-04-99
 APPLICATION NUMBER : 11124187

APPLICANT : INST OF PHYSICAL & CHEMICAL RES;

INVENTOR : TSUTSUI KAZUO;

INT.CL. : H01L 21/203 H01L 21/208 H01L 33/00
 H01S 5/343

TITLE : FORMATION METHOD OF QUANTUM DOT OF NITRIDE SEMICONDUCTOR IN DROPLET EPITAXY



ABSTRACT : PROBLEM TO BE SOLVED: To form a quantum dot of a nitride semiconductor such as GaN, InN, or AlN, InGaN, AlGaIn, etc.

SOLUTION: This method for forming a quantum dot contains a first process, where gallium is supplied as a metal raw material to a sapphire substrate 10 to form a metal droplet 12 of gallium on the sapphire substrate through crystal growth, a second process wherein ammonia gas is supplied as nitrogen source onto the sapphire substrate, on which the metal droplet of gallium is formed in the first process, and the metal droplet of gallium is nitrided to form a quantum dot of nitride gallium as a quantum dot 14 of a nitride semiconductor, and a third process where the quantum dot of nitride gallium formed in the second process is heat-treated at prescribed temperature in a prescribed time.

COPYRIGHT: (C)2000,JPO